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Figure S1. Enlarged version of fluorescence images of cell labeling by probe 1a. Human T-24 cancer cells were treated with clickable Cy3 fluorophore 8 in the presence (A-C) or absence (D-F) of probe 1a. A&D: Cy3 channel (green), B&E: DAPI channel (magenta), C&F: Merged images. Scale bars (white) indicate 5 µm.



Figure S2. Enlarged and greyscaled version of fluorescence images of cell labeling by probe 1a. Human T-24 cancer cells were treated with clickable Cy3 fluorophore 8 in the presence (A-C) or absence (D-F) of probe 1a. A&D: Cy3 channel, B&E: DAPI channel, C&F: Merged images. Scale bars (black) indicate 5 µm.



Figure S3. Enlarged version of fluorescence imaging results using *C. albicans* cells. Treatment with 8 in the presence or absence of 1a was performed with WT cells (A and B, respectively, Cy3 channel (red)) and *itr*1 $\Delta\Delta$ cells (C and D, respectively). Scale bars indicate 10 μ m.



Figure S4. Enlarged and greyscaled version of fluorescence imaging results using *C. albicans* cells. Treatment with 8 in the presence or absence of 1a was performed with WT cells (A and B, respectively) and *itr*1 $\Delta\Delta$ cells (C and D, respectively). Scale bars indicate 10 µm.

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Figure S5. Representative mass spectra detected by liquid chromatography mass spectrometry (LCMS) for click-tagged products of *myo*-inositol probe 1a. Structures are shown that match detected mass peaks. The x-axis shows the retention time from LC separation while the y-axis indicates the areas of peaks containing the relevant mass ion based on ion counts. The colored inset plots these peak areas and depicts two replicate samples (s1 and s2), a control sample of cells lacking probe 1a, and blank samples. These spectra resulted from LCMS runs in negative mode on a Thermo Scientific Q Exactive Hybrid Quadrupole-Orbitrap Mass Spectrometer.

¹H NMR of compound **4**



¹³C NMR of compound **4**



ESI-MS of compound 4



¹H NMR of compound **5**



¹³C NMR of compound **5**



ESI-MS of compound 5



S13

¹H NMR of compound **6**



¹³C NMR of compound 6



ESI-MS of compound 6



¹H NMR of compound **7**



¹³C NMR of compound **7**



ESI-MS of compound 7



¹H NMR of compound **1b**



^{13}C NMR of compound 1b



ESI-MS of compound 1b



S22

¹H NMR of compound **1a**



ESI-MS of compound 1a

